The United States Weather Bureau at its observatory on Mount Weather, Va., began the systematic exploration of the upper air with kites on June 20 of the present year. Since that time ascents ranging from one to four miles above the station have been made daily, except on Sundays and holidays. On October 3, 1907, an altitude of 23,111 feet above sea level, or a little over four miles above the station, was reached, this being, so far as known, the greatest elevation hitherto reached with kites. At the above-named height the temperature was found to be 5.4° F. below zero. The details of this remarkable flight will be communicated to this Congress by Dr. Wm. R. Blair, of the Mount Weather staff.

The valuable information secured by the kite observations is telegraphed daily to the Central Office of the Weather Bureau in Washington, and is there used in the forecast service for the Middle Atlantic and New England States.

Meteorological stations on Pikes Peak and on Mount Washington in the United States, and on Ben Nevis, in Scotland, have been abandoned, especially as the data secured at those places were found to be of little or no use in the making of weather forecasts, largely because of the disturbing influence of radiation from the mountain itself; but now that the kite has been developed to such a high state of efficiency that at Mount Weather but one observation was mist in three months, it will be possible to reopen these stations and get readings of instruments far above the peaks, which will be more useful to the weather forecaster than any surface observations.

COLLIERY EXPLOSIONS AND BAROMETRIC PRESSURE

Many years ago the English Commission on Prevention of Explosions in Collieries, showed that the combustible gases escape from every crack and crevice into the mine most freely when the external barometric pressure is falling and lowest. The escape diminishes as the barometer rises, and is at its minimum when the pressure is highest. Therefore our ordinary range of pressure (1 inch either side of the average) is an important matter to the miner and the "lows", or storm centers, are still more important.

The London weather predictions always mention the approach of "falling barometer", and the mining industries take proper precaution. In the United States we forecast the approach of a storm center and mention rain, wind, and temperature without using the specific words "low barometer" or "falling pressure", since this is the regular feature of the storm center or "low".

However, local and general forecasters might do well to include this word in their messages to coal mining districts, so that there be no reason to accuse the Weather Bureau of neglecting their interests.

The "fire damps" or combustible vapors and gases are always present in coal mines and the miner who strikes a match, or strikes a spark with his pick, or carries an unprotected light runs an awful risk. The Davy lamp is still the miner's best friend; but even this should not be carried into poorly ventilated mines during very low barometric pressures.

RECENT ADDITIONS TO THE WEATHER BUREAU LIBRARY.

H. H. KIMBALL, Librarian.

The following titles have been selected from among the books recently received, as representing those most likely to be useful to Weather Bureau officials in their meteorological work and studies. Most of them can be loaned for a limited time to officials and employees who make application for them.

Aachen. Meteorologisches Observatorium.
Die öffentliche Wetterdienstelle Meteorologisches Observatorium Aachen. Auf der Wanderausstellung der Deutschen Landwirtschafts-Gesellschaft Düsseldorf 1907 ... Aachen. 1907. [13] p. f°.

Allahabad. Meteorologist.
Administration report ... 1906-7. Allahabad. 1907. 4 p. f°.

Bates, D. C.
The climate of New Zealand. Wellington. 1907. 7 p. 8°.

Bulgaria. Institut météorologique central.
Bulletin sismographique. No. 1. Sofia. 1907. 56 p. 8°.
Same. No. 2. Sofia. 1907. 34 p. 8°.
Tremblements de terre en Bulgarie. No. 7 .. 1906. Sofia. 1907. 56 p. 8°.

Fitzner, Rudolf.
Die Regenverteilung in den deutschen Kolonien. Berlin. 1907. iv, 115 p. 8°.

Grablowitz, G.
Weltkarte der Azimute und der Entfernungen für Hamburg. Laibach. 1907. 3 p. 8°.

Mauritius. Royal Alfred observatory.
Results of the magnetical and meteorological observations ... 1905. London. 1907. xxxiii, lxv p. f°.

Prussia. Königl. preussisches meteorologisches Institut.
Ergebnisse der Niederschlags-Beobachtungen im Jahre 1904. Berlin 1907. lii, 162 p. f°.

Roumania. Institutul meteorologic al Romaniei.
Analele. Tomul XVIII, Anul 1902. Bucuresti. 1907. v. p. f°.

St. Petersburg. Observatoire Constantin.
Étude de l'atmosphere. Fascicule II. Sondages aériens par cerfs-volants en 1902 et 1903 et par ballons en 1901, 1902 et 1903, exécutes à Pavlovsk et à St. Pétersbourg. St. Pétersbourg. 1906. ix, (45), 92 p. f°.

St. Petersburg. Université. Cabinet de géographie physique.
Travaux. 3me fasc. St. Pétersbourg. 1906. 121 p. f°.

Shaw, W. N.
Air currents and the laws of ventilation ... Cambridge. 1907. x, 94 p. 8°.

Ziegler polar expedition 1903-1905.
Scientific results obtained under the direction of William J. Peters ... Edited by John A. Fleming. Washington. 1907. vii, 630 p. f°.

RECENT PAPERS BEARING ON METEOROLOGY.

H. H. KIMBALL, Librarian.

The subjoined titles have been selected from the contents of the periodicals and serials recently received in the Library of the Weather Bureau. The titles selected are of papers or other communications bearing on meteorology or cognate branches of science. This is not a complete index of the meteorological contents of all the journals from which it has been compiled; it shows only the articles that appear to the compiler likely to be of particular interest in connection with the work of the Weather Bureau. Unsigned articles are indicated by a ——

American journal of science. New Haven. 4 ser. v. 24. Oct., 1907.
Barus, C. Successive cycles of coronas. p. 309–312.

Meteorological society of Japan. Journal. Tokyo. 26th year. Aug., 1907.
Akakura, K. The temperature of sea water in the harbor of Yokohama. (Jap.)
Okada, T. On the velocity of a falling raindrop (in English).

Nature. London. v. 76.
—— Meteorological observations. (Sept. 12, 1907.) p. 509.
—— International seismological congress. (Sept. 19, 1907.)
—— The Kingston earthquake. (Sept. 19, 1907.) p. 535.

Science. New York. New series. v. 26. Oct. 18, 1907.
—— Influence of forests upon wind velocity. [Abstract of article by Murat.] p. 518.

Scientific American. New York. v. 97.
—— A remarkable acoustic phenomenon. (Oct. 19, 1907.) p. 279. [Abstract of a paper by Alippi on "brontidi".]

Scottish geographical magazine. Edinburgh. v. 23. Oct., 1907.
Brown, Charles W. The Jamaica earthquake. p. 535–543.

Terrestrial magnetism. Baltimore. v. 12. June, 1907.
Homma, Y. Distribution of electricity in the atmosphere. p. 49–72.
Dike, P. H. Paulsen's résumé of recent theories of polar lights. [Abstract of paper by Paulsen.] p. 84–86.

Aérophile. Paris. 15 année. Août 1907.
Rotch, A. Lawrence. Les conditions météorologiques au-dessus de Saint-Louis et le Coupe Gordon-Bennett. (16 juil. 1907.) p. 223–245.

Ciel et terre. Bruxelles. 27 année.
Dubois, Eug. Quelle est l'importance du transport atmosphérique de sel marin? p. 223–245.
—— Les "bandes d'ombre" des éclipses totales de soleil. [Abstract of memoir by E. Holmes, with discussion.] p. 250–252.
Dobrowolski, A. Les cristaux de glace aériens et le phénomène des halos. (16 sept. 1907.) p. 336–342.

France. Académie des sciences. Paris. Tome 145. 16 sept. 1907.
Nodon, Albert. Observations sur l'action électrique du soleil et de la lune. p. 521–523.

Revue néphologique. Mons. Sept. 1907.
Mémery, Henri. Nuages, pluies, incendies. p. 161–162.
Bracke, A. Direction des nuages à Munich. II. Les cirro-cumulus et alto-cumulus. p. 162–164.
Shedd, J. S. L'évolution du cristal de neige. p. 164–166.

Annalen der Hydrographie und maritimen Meteorologie. Berlin. 25 Jahrgang. Heft 9. 1907.
—— Die Forschungsreise S. M. S. "Planet". p. 388–390.
Mecking, L. Die Treibeiserscheinungen bei Neufundland in ihrer Abhängigkeit von Witterungsverhältnissen. p. 396–409.

K., E. Orkan im Meerbusen von Bengalen am 27. Oktober 1906. p. 431-434.

Berichte über Land- und Forstwirtschaft in Deutsch-Ostafrika. Heidelberg. 3 Band. Heft 3. 1907.

Lommel, V. [Fünfter Jahresbericht des Kaiserlich Biologisch-Landwirtschaftlichen Instituts Amani für das Etatsjahr 1. April 1906 bis 31. März 1907.] VII. Meteorologisches. p. 48-51.

Himmel und Erde. Berlin. 19 Jahrg. Sept. 1907.

Krebs, Wilhelm. Dis sizilische Erdbebenkatastrophe vom 10. und 11. Januar 1693. p. 570-574.

Meteorologische Zeitschrift. Braunschweig. Bd. 24. Sept. 1907.

Schwalbe, G. Ueber "Niederschlagstypen" und ihren Einfluss auf die jährliche Periode des Neiderschlages. p. 385-393.

Henze, H. Beziehungen zwischen den Mittel- und Scheitelwerten der Windgeschwindigkeit in Potsdam. p. 394-405.

Meissner, Otto. Bewölkung und Sonnenschein in Potsdam (1894 bis 1900). p. 406-417.

Hann, J[ulius]. Resultate der meteorologischen Beobachtungen zu Loanda. p. 418.

Arendt, Th. Photographische Registrierung von Luftdruckschwankungen. p. 418-420.

Hann, J[ulius]. Resultate der meteorologischen Beobachtungen auf Christmas-Insel (Indischer Ozean) im Jahre 1905. p. 422.

Heidke, P. Resultate der meteorologischen Beobachtungen zu Dares-Salam in den Jahren 1893 bis 1902. p. 424-425.

E., F. M. Messungen der Sonnenstrahlung zu Upsala 1901, von J. Westman. p. 426.

Macdowall, Alex. Luftdruck im Frühling und Herbst. p 426-427.

C., V. Ueber einen neuen Flammenkollektor und dessen Prüfung im elektrischen Felde. p. 428-429.

Chabot, T. Eine neue Registrierungsmethode für meteorologische und geoseismiche Instrumente. p. 429-431.

—— Resultate der meteorologischen Beobachtungen in Pará im Jahre 1906. p. 431.

—— Einige Ergebnisse der meteorologischen Beobachtungen in Gibraltar. p. 432.

Physikalische Zeitschrift. Leipzig. 8 Jahrgang. 1 Okt. 1907.

Kohlrausch, K. W. F. Zur Erklärung der Unipolarität bei atmospharischen Zerstreuungsmessungen. p. 656-658.

Wetter. Berlin. 24 Jahrgang. Aug., 1907.

Fischer, Karl. Die Verbreitung von Nachrichten über die Wasserstands- und Eisverhältnisse der Flüsse durch den öffentlichen Wetterdienst in Norddeutschland. p. 169-174.

Gerstmann, Heinrich. Zur Frage einer Wetterscheide in den Alpen. p. 174-178.

Klengel, Friedrich. Die Niederschlagsverhältnisse von Deutsch-Südwestafrika. p. 178-181.

Cyran, Georg. Die Trockenheit des Jahres 1893 in Mittel-Europa. p. 182-186.

Hemel en dampkring. Den Haag. 5 Jaahrgang. Sept., 1907.

Monné, A. J. Meteorologische waarnemingen in West-Indië [1905 and 1906]. p. 80-82.

Società geografica Italiana. Bollettino. Roma. Ser. 4. v. 8. Ott. 1907.

—— Influenza delle foreste sulla velocità dei venti. [Review of article by J. Murat.] p. 1029-1030.

CORRIGENDA.

In the MONTHLY WEATHER REVIEW for September, 1907, Vol. XXXV, page 392, column 1, footnote, for "vapor" read "water"; page 393, column 1, line 31, for "H. M. Dole" read "R. M. Dole"; page 394, column 1, line —14, for "0.000075" read "0.000076"; page 394, column 1, line —13, for "15" meters read "14.4"; page 396, column 2, line 20, for "Herbert" read "Hubert".

THE WEATHER OF THE MONTH.

By Mr. P. C. DAY, Assistant Chief, Division of Meteorological Records.

PRESSURE.

The distribution of mean atmospheric pressure for September, 1907, over the United States and Canada, is graphically shown on Chart VI, and the average values and departures from the normal are shown for each station in Tables I and V.

The average pressure was below the normal for the month over all districts from western Texas northeastward to the Great Lakes and eastward to the Atlantic, except the Florida Peninsula, where the normal was exceeded by small amounts. Over the lower Lakes and St. Lawrence Valley the negative departures ranged from —.05 to —.10 inch.

From the upper Missouri Valley northward into Canada and from the Rocky Mountains to the Pacific the monthly averages of pressure were generally above the normal; the maximum positive departures, +.05 to +.10 inch, covering the districts along the northern border from North Dakota to Washington and extending into the Canadian Northwest Territories.

No marked variation occurred in the positions of the more or less permanent areas of high and low pressure, altho the changes from August conditions were generally more pronounced than the average variations from that month to September. Over nearly all portions of the United States and Canada there is normally a substantial increase in pressure from August to September, due to the cooling of the continental area. During September, 1907, this increase was well-marked over the upper Missouri Valley and thence northward over the Northwest Provinces of Canada, where the increase averaged from .10 to .15 inch. Over the Lake region and Gulf coast the decrease in pressure from that of August ranged from .05 to .07 inch.

With the normal distribution of pressure the surface winds during September along the Atlantic coast from Virginia southward and over the east Gulf States are from the northeast; in the Mississippi Valley and generally over the Plains region they are southerly, while westerly winds prevail along the Pacific coast and generally over most of the Plateau region. During the current month the general decrease of pressure over the Great Lakes and New England, and the slight increase over Florida and surrounding ocean areas were sufficient to deflect the surface winds of the Atlantic coast districts from their prevailing northeasterly course. As a result southerly winds were general over all districts east of the Rocky Mountains, except the upper Missouri Valley and the northern portion of the upper Lakes, where, under the influence of increased pressure over Manitoba and surrounding districts, northerly or westerly winds were generated.

Over the Rocky Mountain and the northern portion of the Plateau regions there was a marked decrease in wind movement, the average hourly velocity ranging from 20 to 30 per cent less than the normal.

TEMPERATURE.

The variations of the mean temperature of the month from the normal were generally small, except over the upper Missouri Valley and northern Plateau districts, where the deficiency in temperature noted in previous months of the season was continued, making the sixth consecutive month with mean temperature below the seasonal average. Over portions of the above-mentioned districts the departures for the month ranged from 4° to 8° below the average, and the accumulated deficiency for the six months, April to September inclusive, at points in North Dakota and Montana, amounted to from 5° to 6° daily.

Average temperatures from 2° to 4° below the normal occurred over central and northern California and the greater part of Nevada.

Along the Atlantic coast the mean temperatures were about 2° above, and over Texas, Arkansas, and Oklahoma they ranged from 2° to 5° above the seasonal average.

The highest temperatures for the month over the greater part of the Mississippi Valley and the Gulf and South Atlantic coast States occurred on the 1st and 2d; over Arkansas, southwestern Missouri, eastern Kansas, and portions of Texas, about the 7th; over the Plateau districts, about the 9th and 10th; and over the lower Lakes, Ohio, Pennsylvania, New York, and New England on the 15th and 16th.

Maximum temperatures of 100° or higher occurred generally over central and northern Texas, Arkansas, Oklahoma, southwestern Arizona, and southeastern California. In Arkansas